REMARKS

With this Amendment, claims 11-23 are cancelled. Therefore, claims 1-10 are all the claims currently pending in this Application.

At pages 3-4 of the Office Action, the Examiner indicates that he has not considered the references listed on the PTO/SB/08 and included in the International Search Report (ISR), filed on July 14, 2005. The Examiner indicates that these references have not been considered because Applicants have not provided copies thereof and because they were not listed on a separate sheet. Applicants note that the Examiner is incorrect. Applicants are not required to provide copies of those references listed in the ISR. Rather, these copies are to be obtained by the PTO from the PCT offices. Further, these references were listed on a separate sheet, as required, as evidences by the PTO/SB/08 form which the Examiner refused to initial.

Applicants respectfully request that the Examiner consider the references listed on the PTO/SB/08 form and provide Applicants with a duly signed and fully initialed copy of the PTO/SB/08 form with the next Office correspondence.

Prior Art Rejections

Claim 1 stands rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Hosomi (U.S. Patent 6,731,846). Claim 10 stands rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Ido (U.S. Patent 5,570,439). Claims 2-7 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Hosomi in view of Lee (U.S. Patent 6,931,189). Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Hosomi in view of Lee and Ido.

Regarding claim 1, Applicants submit that Hosomi fails to disclose or suggest any means for making variable the absolute value of a chromatic dispersion and for making variable the sign of a chromatic dispersion independent of the absolute value of the chromatic dispersion given to an optical pulse in a waveguide.

In a dispersion compensating waveguide as described in col. 6, lines 44-61 and Fig. 1b of Hosomi, defects in photonic crystals are formed to be connected in series. As shown in Fig. 4, the specific constitution of the defect is a point defect which is surrounded through 360 degrees by photonic crystals within a two-dimensional plane in which cylinders of photonic crystals are displaced.

As described in col. 2, line 44 to col. 3, line 29 of Hosomi, light becomes a localized mode which is blocked in the point defect and forms a status which is called a defect level. One defect level exists in each defect. As described in col. 3, lines 43-60, and as shown in Fig. 5, light is propagated from P to P' by using resonance due to an evanescent wave. Based on a single localized level existing in each point defect, chromatic dispersion characteristics as shown in Fig. 6 are obtained. The vertical axis of Fig. 6 is proportional to a group delay time (an inverse of group velocity V_g). Suppose $\lambda_1 < \lambda_0 < \lambda_2$ in Fig. 6 in a range from λ_1 to λ_0, the absolute value of the chromatic dispersion gradually decreases, but the sign of the chromatic dispersion does not change (according to a definition in lines 6-9 of page 6 of the description of the present Application, the sign is plus). The chromatic dispersion becomes zero at λ_0. In a range from λ_0 to λ_2, the absolute value of the chromatic dispersion gradually increases but the sign of the chromatic dispersion does not change (according to a definition in lined 6-9 of page 6 of the

description of the present Application, the sign is minus). Based on the above-described characteristics, in order to reverse the sign by keeping the absolute value of the chromatic dispersion, the characteristic curve shown in Fig. 6 is moved in parallel against the wavelength axis as shown in Fig. 17 by changing all the defect levels in the same manner. Accordingly, before the sign of the chromatic dispersion reverses, the absolute value of the chromatic dispersion changes as well. Therefore, it is impossible to accommodate Hosomi for usage in which only the sign is changeable.

Also in the characteristic curve shown in Fig. 6, if the wavelength changes, the absolute value itself changes. Accordingly, in a wavelength division multiplexing communication, Hosomi is not suitable to be used for a purpose in which chromatic dispersion compensation is performed by using a plurality of wavelength channels. This is described from page 5, line 5 to page 6, line 5 of the description of the present Application as a problem of existing techniques.

Therefore, in view of the above, Applicants submit that claim 1 is patentable over Hosomi. Applicants further submit that neither Lee, nor Ido compensate for the above-discussed deficiencies of Hosomi. Therefore, Applicants submit that claims 2-9 are patentable over the cited combinations of references at least for their dependency on claim 1.

Regarding claim 10, Applicants submit that Ido fails to disclose or suggest making the absolute value and the sign of chromatic dispersion variable, as recited. As described in col. 2, lines 12-15 of Ido, it is related to an optical dispersion compensator capable of adjusting the wavelength and the intensity of dispersion compensation electrically and/or thermally. On the

other hand, claim 10 recites making the absolute value and the sign of chromatic dispersion variable. Therefore, Applicants submit that claim 10 is patentable over Ido.

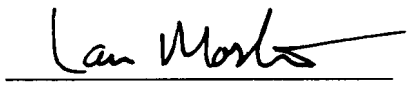
Applicants respectfully request that the rejections of claims 1-10 be reconsidered and withdrawn.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Laura Moskowitz
Registration No. 55,470

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

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